

KINO-EHL

Mini-ITX SBC supports Intel® quad-core Celeron® J6412 2.0GHz on-board SoC

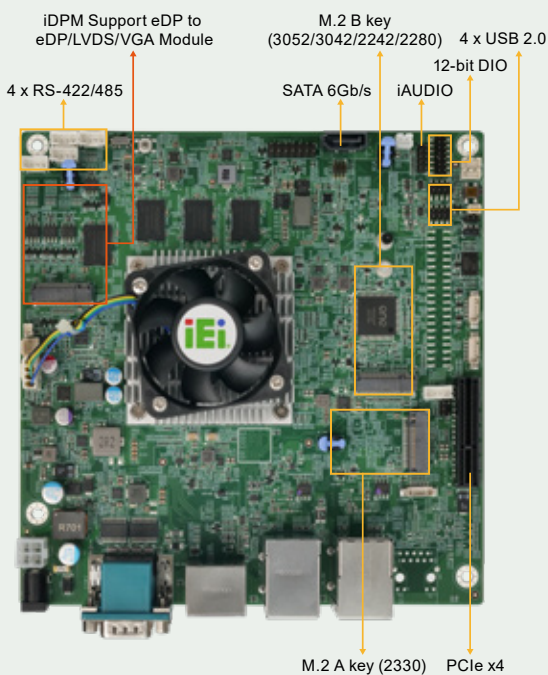
- On-board LPDDR4x 8GB (up to 16 GB option)
- Support Triple independent displays via HDMI,DP, iDPM
- Dual Intel® I226-V 2.5GbE ports
- One PCIe Gen3 x4 slot,M.2 A key and M.2 B key expansions
- Two USB 3.2 Gen2, six USB 2.0, two RS-232, four RS-422/485



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KINO-EHL

Mini-ITX SBC supports Intel® quad-core Celeron® J6412 2.0GHz on-board SoC with 8GB LPDDR4x memory on board default, Triple Independent Display, HDMI, DP, SATA 6Gb/s, Dual 2.5 GbE, USB 3.2, M.2 and RoHS



10W Low-power Intel® Elkhart Lake Celeron® J6412 CPU

Intel® 10nm Celeron® J6412 On-board SoC, 4 cores and 4 threads, base frequency 2.00GHz, turbo frequency up to 2.60GHz, 1.5MB cache



Supporting Intel® I226-V 2.5GbE Controllers

Two RJ45 network interfaces are supported via Intel® I226-V 2.5GbE controllers, achieving up to 2.5GbE network transmission rate.



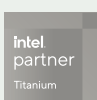
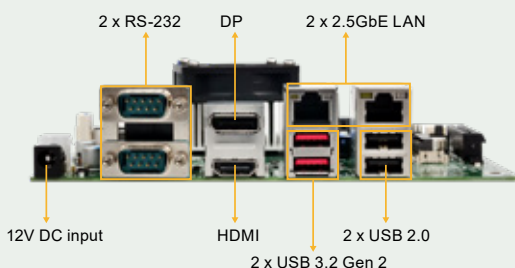
Rich Expansion I/O

Support one M.2 A key for Wi-Fi & Bluetooth modules, one M.2 B key 3052 for 5G modules and one open-ended PCIe Gen3 x4 slot.

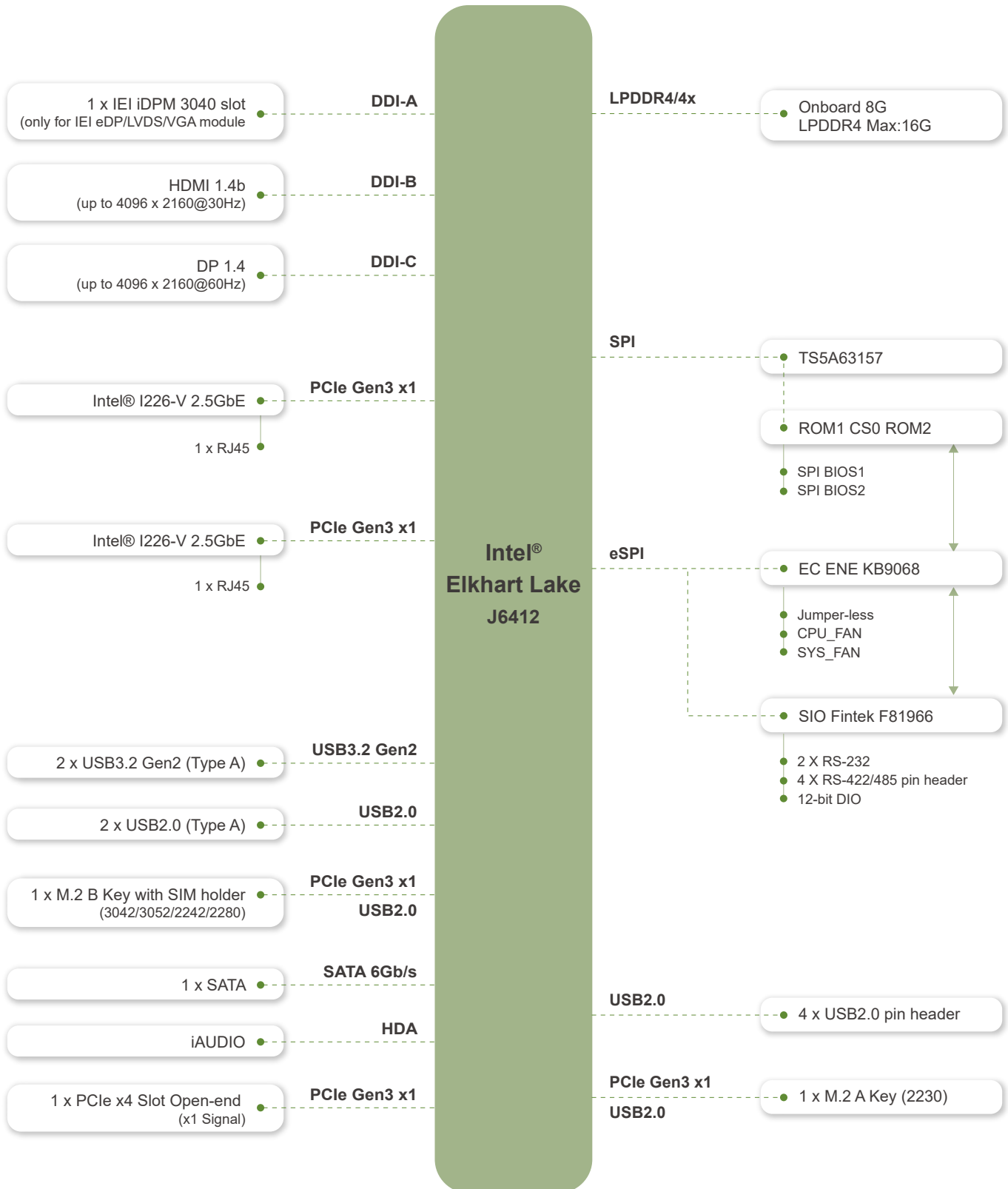


IEI-specific iDPM Interface

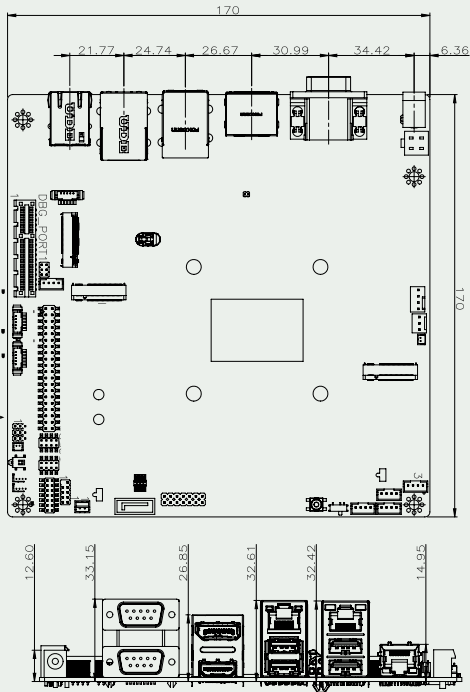
IEI uniquely designs a iDPM interface that can connect to display modules, enabling users to add LVDS/eDP/VGA display interface upon requirements.



Block Diagram



Dimensions



Optional accessories



Specifications

| Model | KINO-EHL |
|-----------------------|--|
| CPU | Intel® Elkhart Lake Processor Intel® Celeron® J6412 on-board SoC (up to 2.6GHz, quad-core, 1.5M Cache, TDP=10W) |
| BIOS | AMI UEFI BIOS Dual BIOS for boot & recovery |
| Memory | Onboard LPDDR4x-3200MHz 8GB, system up to 16GB |
| Graphics Engine | Intel® UHD Graphics |
| Display Output | Triple Independent Display 1 x HDMI 1.4 (up to 4096 x 2160@30Hz) 1 x DP 1.4 (up to 4096 x 2160 @60Hz) 1 x IEI iDPM 3040 slot (only for IEI eDP/LVDS/VGA module) |
| Ethernet | LAN1: Intel® I226-V 2.5GbE controller LAN2: Intel® I226-V 2.5GbE controller |
| External I/O | 2 x USB 3.2 Gen 2 (10Gb/s) (USB Type A) 2 x USB 2.0 (USB Type A) 2 x RS-232 |
| Internal I/O | 1 x SATA 6Gb/s 4 x USB 2.0 (2x4 pin, P=2.0) 4 X RS-422/485 (1x4 pin, P=2.0) |
| SMBus | 1 x SMBus (1x4 pin) |
| I²C | 1 x I2C (1x4 pin) |
| Audio | 1 x iAUDIO, support IEI AC-KIT-888S Audio Module (2x5 pin, P=2.0) |
| Front Panel | 1 x Front Panel (2x7 pin, power LED, HDD LED, power button, reset button) |
| Expansion | 1 x PCIe x4 slot, open-ended (PCIe Gen3 x1 signal) 1 x M.2 A key 2230 (PCIe Gen3 x1 & USB 2.0) 1 x M.2 B key (3042/3052/2280) (PCIe x2 & USB 2.0) 1 x On-board SIM card socket (hinge type) for M.2 B key |
| Digital I/O | 1 x 12-bit DIO (2x7 pin) |
| TPM | Intel® PTT(TPM 2.0) |
| Fan Connector | 1 x CPU fan connector (1x4 pin) 1 x System fan connector (1x3 pin) |
| Power Supply | 12V DC input 1 x Internal power connector (2x2 pin) 1 x External DC power jack (Ø5.5mm) ErP/EuP Compliant |
| Watchdog Timer | Software programmable, support 1~255 sec. system reset |
| Power Consumption | 12V@2.78A (Intel® Celeron® J6412 2.0GHz with 8GB 3200MHz LPDDR4X memory and EUP enabled) |
| Operating Temperature | 0°C ~ 60°C |
| Storage Temperature | -30°C ~ 70°C |
| Operating Humidity | 5% ~95%, non-condensing |
| Dimension | 170 mm x 170 mm |
| Weight | GW:900g / NW:400g |
| Certification | CE/FCC Compliant |

Packing List

| | |
|---|--|
| 1 x KINO-EHL single board computer with cooler module | 1 x SATA cable (PN: 32801-000201-300-RS) |
| 1 x I/O shielding (PN: 45014-0097C0-00-HF) | 1 x QIG |

Ordering Information

| | |
|---------------------|---|
| KINO-EHL-J6412C-R11 | Mini-ITX SBC supports Intel® quad-core Celeron® J6412 2.0GHz on-board SoC with 8GB LPDDR4x memory on board default, Triple Independent Display, HDMI, DP, SATA 6Gb/s, Dual 2.5 GbE, USB 3.2, M.2 and RoHS |
|---------------------|---|

Optional Accessories

| | |
|---------------------|---|
| CB-USB02A-RS | Dual port USB cable with bracket, 300mm, P=2.00 |
| AC-KIT-888S-R10 | Realtek ALC888S 7.1 Channel HD Audio peripheral board,RoHS |
| 32205-002700-200-RS | SATA power cable, MOLEX 5264-4P to SATA15P |
| 32205-003800-300-RS | RS-422/485 cable, 200mm, P=2.0 |
| iDPM-eDP-R10 | eDP to eDP converter board (for IEI iDPM connector) |
| iDPM-LVDS-R10 | eDP to LVDS converter board (for IEI iDPM connector) |
| iDPM-VGA-R10 | eDP to VGA Connector converter board (For IEI Display Module) |
| iDPM-VBO-R10 | eDP to VBO DisplayPort converter board (for IEI iDPM connector) |
| iDPM-DP-R10 | eDP to DP DisplayPort converter board (for IEI iDPM connector) |